Professor Bache read a letter from Major Sabine, giving the progress of the magnetic observations now making, and referring to the modes deemed advisable for the publication of the records of observatories. He referred also to the anomalous nature of the curves for the May term day at Toronto and at Greenwich, and to an instrument for observing vertical force by reflection, in the putting up of which Professor Airy was engaged.

Stated Meeting, December 18.

Present, thirty-eight members.

Mr. Du Ponceau, President, in the Chair.

The following donations were received:—

FOR THE LIBRARY.

Journal Asiatique. 3 Série. Tom. IX. No. 49. Paris. Janvier, 1840.—*From the Society.*

Tijdschrift voor Natuurlijke Geschiedenis en Physiologie; uitgegeven door J. Van der Hoeven, M.D., Prof. te Leiden, en W. H. Vriese, M.D., Prof. te Amsterdam. Zevende Deel. 1ste en 2de Stuk. 8vo. Leiden, 1840.—*From the Editors.*

An Account of the Receipts and Expenditures of the United States, for the Year 1839. 8vo. Washington, 1840.—*From Mr. T. L. Smith, Register of the Treasury.*

A Commercial Dictionary, containing the Present State of Mercantile Law, Practice, and Custom. By Joshua Montefiore, &c. The first American Edition, with very considerable Additions relative to the Laws, Usages, and Practice of the United States. In three Volumes, 8vo. Philadelphia, 1804.—*From Mr. Du Ponceau.*

Sundry Pamphlets, Catalogues, &c., relating to the University of Pennsylvania. 8vo. (Bound.)—*From the same.*

Lettere sull' Indie Orientali. 8vo. Filadelfia, 1802. (2 Vols.)—*From the same.*

Des Crimes de la Presse, considérés comme Générateurs de tous les Autres. Dédié aux Souverains de la Sainte-Alliance. 8vo. Paris. (No date.)—*From the same.*

Traité des Tribunaux de Judicature, ou l'on examine ce que la Religion exige des Juges, des Plaideurs, des Avocats et des Témoins, &c. &c. Par P. Roques, Pasteur de l'Eglise Françoise de Basle. 4to. Basle, 1740.—*From the same.*

Alger sous la Domination Française; son État présent et son Avenir. Par M. le Baron Pichon, Conseiller d'État, ancien Intendant Civil d'Alger. 8vo. Paris, 1833.—*From the same.*

A New Spanish Grammar, adapted to every Class of Learners. By Mariano Cubí i Soler, Professor of Modern Languages in the College of Louisiana. Sixth Edition, with Corrections and Improvements.—*From the Author.*

The Natural History of the Fishes of the Firth of Forth, and Tributaries. By Richard Parnell, M.D. F.R.S. Edin., &c. &c. Private Copy: from the Memoirs of the Wernerian Natural History Society, Vol. VII. 8vo. Edinb. 1838.—*From the Author.*

Description of the Geology of the State of New Jersey, being a Final Report. By Henry D. Rogers, State Geologist, &c. &c. 8vo. Philadelphia, 1840.—*From the Author.*

Récit de l'Inauguration de la Statue de Gutenberg et des fêtes données par la Ville de Strasbourg, les 24, 25, et 26 Juin, 1840. Par Auguste Luchet, &c. 24mo. Paris, 1840.—*From Mr. D. B. Warden.*

Pamphlets.—1. Institut Royal de France. *a.* Académie des Sciences, Morales et Politiques: Séance publique du Samedi, 27 Juin, 1840. *b.* Académie Française: Séance publique du Jeudi, 11 Juin, 1840. *c.* Académie Royale des Sciences: Séance publique du Lundi, 13 Juillet, 1840. 2. Revue de l'Agriculture Universelle, publiée par la Société d'Agriculture Universelle, sous la direction de M. l'Abbé Theodore Perrin, &c. &c. Tom. 1er. 1re et 2e Livraison, Oct. 1839. 3. Société Royale et Centrale d'Agriculture. *a.* Mémoire sur la Culture de Chêne Liége, sur la Récolte et la Fabrication du Liége: par M. F. Jaubert, de Passa, &c. &c. Paris, 1836. *b.* De la Greffe du Murier blanc sur le Murier des Philippines, par M. Bonafous, &c. &c. Paris, 1835. *c.* Rapport sur une Herse-Rateau, de l'Invention de N. Lestounière, &c.—M. le Vte Héricart de Thury, Rapporteur. Paris, 1840. *d.* Archives d'Harcourt, 1ère Année. Paris, 1836. *e.* Premier Rapport fait au nom de la Commission d'Œnologie, composée de MM. le Comte de Rambuteau, Président; le Duc Decazes, de Mirbel, Morin de Sainte-Colombe,—O. Leclerc-Thouin, Rapporteur.

f. Second Rapport sur le même sujet. 4. Compte rendu des Travaux de la Société Philotechnique, par le Baron de Ladoucette, Sécrétaire perpetuel: Séances, de Dec. 1834; Juin, 1835; Mai, 1836; Dec. 1836; Juin, 1837 et Juin, 1838. Liste des Membres de la Société, &c. 5. Discours de M. de Ladouchette, député de la Moselle, dans la discussion sur la proposition de M. Anisson, relative au défrichement des Forêts. (Chambre des Députés: Séance du 5 Mars, 1838.) 6. Discours de M. le Baron de Morogues, Pair de France, dans la discussion du projet de Loi sur les Douanes. (Chambre des Pairs: Séance du 9 Juin, 1836.) 7. Note Historique sur les Bateaux à Vapeur, &c. par Mr. C. P. Molard, de l'Académie des Sciences. 8. Mémoire sur une Apoplexie Charbonneuse de la Rate qui a regné épizootiquement sur les Bêtes à Laine, dans les Départemens de l'Indre et du Cher, pendant l'Automne de 1834. Par J. Ch. Herpin, &c. 8vo. Paris, 1836. 9. Des Pertes qu'occasionerait á l'État la Continuation de l'application actuelle de notre Puissance amortissante: par A. Séguin, de l'Institut. Février, 1830. 10. Rapport sur l'Horlogerie de Paris, par M. Charles-Louis Le Roy, Horloger du Roi, 8vo. Paris, 1840.—*From the same.*

Memorial of Edmund Pendleton Gaines to the Senate and House of Representatives of the United States in Congress assembled. 8vo. Memphis, Tennessee. 1840.—*From General Gaines.*

Meteorological Register for the Years 1826, 1827, 1828, 1829, and 1830, from Observations made by the Surgeons of the Army, and others at the Military Posts of the United States. Prepared under the direction of Thomas Lawson, M.D., Surgeon-general United States Army. To which is appended, the Meteorological Register for the Years 1822, 1823, 1824, and 1825. Compiled under the direction of Joseph Lovell, M.D., late Surgeon-general of the United States Army. (Published for the use of the medical officers of the army.) 8vo. Philadelphia, 1840.—*From Dr. Dunglison.*

The Committee, consisting of Dr. Patterson, Prof. Bache, and Mr. Lukens, to whom was referred the communication of Prof. Henry, entitled "Contributions to Electricity, No. IV., on Electro-dynamic Induction," reported in favour of publication, which was directed accordingly.

In this paper Prof. Henry has collected such parts of his researches as particularly relate to the induction at the moment of making and breaking a galvanic circuit, and presents them as the continuation, and, in a measure, as the completion of this part of the general subject of his "Contributions."

The paper is divided into three sections: the first of these relates to the induction at the beginning of a galvanic current. It will be recollected that the arrangement of apparatus employed in the last series of experiments produced a powerful shock at the moment of the ending of the current; but a very feeble one at the beginning. In order, therefore, to study the induction in the latter case, the attention of Prof. Henry was first directed to the discovery of some means by which its intensity could be increased, and after some preliminary experiments, the desired result was obtained, by using a compound Daniel's battery, instead of the single battery before employed. It was also found, that the shock could be increased by diminishing, within certain limits, the length of the primary conductor.

After detailing a number of new facts relative to the induction at the beginning as well as at the ending of a galvanic current, an account is given of the production of currents, of different orders, from the beginning induction. These are found to be of the same nature as the several currents produced by the induction at the ending of the current, as described in Prof. Henry's last paper—each induced current possessing the property of inducing a current in an opposite direction to itself: and hence a series of alternating currents is exhibited in the case of this induction, similar to that described in Prof. Henry's last communication in reference to the ending induction. The same neutralizing effect is also produced by the interposition of a plate of metal between the conductors of the different orders.

The second section relates to a class of phenomena which at first sight would appear to indicate the existence of two kinds of electrodynamic induction. A brief account of the principal part of these has been given in the Proceedings of the Society for Oct. 1839. The attention of Prof. Henry was directed to this part of his investigations, by a statement in the 14th series of Dr. Faraday's researches, which was apparently in contradiction to one of the most important facts given in the last number of his "Contributions." It is stated in substance, in Prof. Henry's last paper, that when a plate of metal is interposed between the coil, and a helix placed above it to receive the induction, the shock is almost entirely neutralized. Dr. Faraday, in

apparent opposition to this, found that not the least difference in effect is produced, whether the space between the conductors is occupied with a conductor of electricity or not, provided the interposed substance be not of the magnetic kind. A series of experiments was instituted to discover the cause of the discrepancy; and it was found, that in the case of induction produced by the motion of a helix towards a galvanic current, no screening influence was indicated by the deflections of the needle of a galvanometer; also, when the induction was effected by moving a battery up and down in the acid, and in the case of magnetic electricity produced by the motion of the keeper towards the poles of a magnet, the interposition of the plate of metal produced no change in the indications of the needle. The induced electricity—which is thus produced by motion, and is of such low intensity as only to affect the galvanometer, which does not cause shocks, and is not neutralized by a plate of metal—was at first thought to be of a different kind from that induced by the sudden ending of a galvanic current. In reference to this idea, a new examination was made of the phenomena of the screening influence of the plate, in the case of the induction at the making and breaking of a galvanic circuit, and it was found, that the neutralizing effects, described in Prof. Henry's last paper, only existed in reference to the shock, and the power of magnetizing steel needles, while the indications of the galvanometer were not at all influenced by the presence of the plate: also, that the shock and deflections of the needle appeared to depend on entirely different conditions, and gave, in almost every case, very different indications of the amount of inductive action. Thus, in the arrangement of an apparatus, which gave an intense shock at the breaking of a galvanic circuit, and a very feeble one at the making of the same, the deflections of the needle were as great in the latter case as in the former. It was also found, that although the shock, from the currents of the third and fourth orders, was very severe, yet the galvanometer was scarcely moved by them.

From all these results, Prof. Henry was at first inclined to believe, that there were two kinds of electro-dynamic induction, or that the induced current consisted of two parts, one of which could be neutralized by a plate, and the other not; but after an attentive study of the whole subject, he was led to conclude, that these facts, as well as all those belonging to galvanic induction, given in his former papers, could be referred to the simple laws of the induction in different directions at the moment of making and breaking a galvanic circuit.

The third section of the paper is occupied with these theoretical considerations, and in this Prof. Henry shows, that if the fact be granted, that the deflection of the needle is due to the whole amount of induced electricity, whatever may be its intensity, all the phenomena may be explained by the different degrees of rapidity with which a given amount of inductive action is expended.

When the development or the diminution of the quantity of a galvanic current is sufficiently rapid, a shock is produced; but if the same amount of development is produced more slowly, no shock perhaps will be obtained, although the deflection of the needle will be as great as before. The neutralizing effects of the interposed plate, in reference to the shock and not to the needle, are direct consequences of these principles, and most of the perplexing phenomena, described in Prof. Henry's last papers are referred to the same cause.

Prof. Henry illustrates his views by the artifice of a curve, the abscisses of which represent the time of the increase or diminution of the quantity of a current, and the ordinates the amount of inductive force produced by the same.

The Committee, consisting of Mr. Nuttall, Mr. Lea, and Dr. Coates, to whom was referred a communication by Miss Margaretta H. Morris, on the Cecidomyia Destructor or Hessian Fly, reported in favour of publication, which was ordered accordingly.

The Committee express the opinion, that should the observations of Miss Morris be ultimately proved correct, they will eventuate in considerable benefit to the agricultural community, and, through it, to the public. Miss Morris believes she has established, that the ovum of this destructive insect is deposited by the parent in the seed of the wheat, and not, as previously supposed, in the stalk or culm. She has watched the progress of the animal since June, 1836, and has satisfied herself that she has frequently seen the larva within the seed. She has also detected the larva, at various stages of its progress, from the seed to between the body of the stalk and the sheath of the leaves. In the latter situation it passes into the pupa or "flaxseed state." According to the observations of Miss Morris, the recently hatched larva penetrates to the centre of the straw, where it may be found of a pale greenish-white semi-transparent appearance, in form somewhat resembling a silk-worm. From one to six of these have

been found at various heights from the seed to the third joint: they would seem to enter the pupa state about the beginning of June.

This fly was not observed by Miss Morris to inhabit any other plant than wheat.

To prevent the ravages of this destroyer of the grain, it will be proper to obtain fresh seed from localities in which the fly has not made its appearance. By this means the crop of the following year will be uninjured; but in order to avoid the introduction of straggling insects of the kind from adjacent fields, it is requisite that a whole neighbourhood should persevere in this precaution for two or more years in succession. This result was obtained, in part, in the course of trials made by Mr. Kirk, of Bucks County, Pa., with some seed-wheat from the Mediterranean, in and since the year 1837. His first crop was free from the fly, but it was gradually introduced from adjacent fields; and in the present year the mischief has been considerable. As Miss Morris states that the fly has never made its appearance in Susquehanna and Bradford Counties, seed-wheat, free from the fly, might be obtained from these, and probably from other, localities.

The Committee recommend that the conclusion of Miss Morris "may be subjected to the only efficient test—repeated observations and effective trials of the precaution she advises."

The Committee, consisting of Prof. Rogers, Dr. Bache, and Mr. Booth, on a communication, entitled, "On the Perchlorate of Ethule or Perchloric Ether, by Clark Hare and Martin H. Boyé," reported in favour of publication, which was ordered accordingly.

In the above paper, the mode of obtaining the perchloric ether, by subjecting a mixture of sulphovinate of baryta and perchlorate of baryta to distillation, is first described. The authors next detail the precautions to be attended to in preparing and experimenting upon this highly explosive compound. They afterwards describe the appearance and properties of the substance which ranks in that class of organic salts, denominated *ethers*. It is a colourless, transparent liquid, heavier than water, and soluble in alcohol, from which it may be precipitated again, by the addition of water. An alcoholic solution of the hydrate of potassa has the power of decomposing it, forming perchlorate of potassa and alcohol. The most characteristic property of the compound is its tendency to explode from the slightest causes

Mr. Nuttall presented a continuation of his communication read at a former meeting (Proceedings, No. 13, p. 284), under the title, "On the Corymbiferæ, collected on a Tour across the Continent of North America," which was referred to the same Committee as its predecessor.

Mr. Vaughan read a letter from Mr. J. H. Alexander, of Baltimore, containing very favourable remarks on the construction adopted by Mr. James Green, of Baltimore, for the standard barometer made by him for the Maryland Academy of Science and Literature, and described in a Report of the Meteorological Committee of the Academy, in 1836.

Professor Bache laid before the Society a Report from Mr. Adams to the House of Representatives, on a Letter from the Secretary of War, of the 31st Dec. 1839; and a Memorial from a Committee of the American Philosophical Society, asking the aid of the government to carry on a series of magnetic and meteorological observations, and ending with a resolution,—

"That the sum of twenty thousand dollars ought to be appropriated for the establishment of five several stations, at suitable distances from each other, for making observations of terrestrial magnetism and meteorology, conformably to the invitation from the Royal Society of Great Britain to the American Philosophical Society at Philadelphia, and to other learned societies in the United States; that the said sum should be placed under the direction, and at the disposal, of the Secretary of War, for the fulfilment of these purposes; he to account for the expenditures, thus authorized, to the Treasury of the United States."

Professor Bache then offered the following resolution, which was adopted:—

Resolved, That the Committee by whom a memorial was addressed to the Secretary of War, in reference to the establishment of magnetic observations, be instructed again to call his attention to the system of combined observations on terrestrial magnetism and meteorology now in progress.

Dr. Patterson called the attention of the Society to the subject of the evolution of electricity from steam, mentioned at the last meeting, and stated that the experiments made lately in

England had been successfully repeated by Mr. Peale, Mr. Saxton, and himself, at the United States' Mint.

Dr. Patterson said, that their first attempts were to collect electricity from the steam as it issued from a gauge-cock, near the surface of the water, in the boiler; but in this case the steam was always accompanied by a spray of water, and the experiments failed. They also failed when the steam was of a low temperature, as it was then condensed immediately upon leaving the boiler, so as to form a cloud of vesicular vapour. In both these cases, the electricity, if evolved at all, would be led back to the boiler—the spray and the vesicular vapour being, as is well known, electrical conductors.

When, on the other hand, high steam was drawn off from a stop-cock far removed from the water in the boiler, it was observed to issue, for some distance, in the form of a transparent gaseous vapour, and, in this case, any insulated body on which it was condensed was always found to be charged with electricity. Thus, if the experimenter stood on an insulating stool, or even on a box or ladder of dry wood, and held an iron ladle, or any other conductor, in the issuing steam, the conductor and the operator became so fully charged with electricity, that thick sparks of a half, three-quarters, and in some instances a whole inch in length, were drawn off; the Leyden jar charged; the shock given to several persons holding hands, &c. The electricity thus produced was found to be always positive.

Dr. Patterson said, that one of the most important conclusions to which the experiments had led, was, that true gaseous steam is a non-conductor of electricity. If it had not been so, the apparatus would not have been insulated, and the electricity excited would have been carried back to the metallic boiler, and thence to the earth.

Dr. Patterson thought it most probable that the electricity, in these experiments, was evolved by the condensation of the steam—the phenomenon being analogous to the evolution of latent heat by the same condensation. He remarked, that as the steam within the boiler was surrounded by conductors, it could not be supposed to contain free electricity, and that on leaving the boiler, the only sources to which the electricity could be ascribed, seemed to be the condensation of the steam, the oxidation of the iron against which it impinges, or the friction of the steam against the air as it rushes through it.

To shew that oxidation was not the source of the electricity, the experimenters caused the steam to strike upon a large bar of fine gold

(400 oz. in weight,) and the generation of electricity was as abundant as when they employed an oxidizable metal. The electricity was also evolved by the insulated operator simply holding his hand in the steam as it issued; in which case the steam was condensed upon the hand, and the whole person became charged. Dr. Patterson stated, that this was, in fact, the experiment accidentally made near New Castle, in England, and which has attracted so much attention.

To show that the electricity was not caused by the rushing of the vapour through the air, Dr. Patterson said, that an apparatus was made, consisting of a pipe connected with the stop-cock on the boiler, a portion of about ten inches in length, near the upper end, being of glass, to produce insulation, and the remainder of lead, wound into a helix, like the worm of a still. This helix was immersed in a bucket of water and snow. When the steam was admitted, it became entirely condensed within the pipe, so that there was no rush through the air; yet the production of electricity was as abundant as with the former arrangements.

Dr. Patterson took notice of experiments made, half a century ago, by Volta and Saussure, and afterwards by Cavallo, which proved, to their satisfaction, that electricity was evolved during evaporation and condensation, but which have since been called in question by Pouillet and others, who assert, that a mere change of state, not accompanied by chemical change, never gives rise to electricity. He considered the experiments, now made on a large scale, as favouring, if not confirming, the first opinions entertained on this subject.

Dr. Patterson referred to the satisfactory manner in which these new experiments seem to explain the sources of electricity in the thunder storm, and in volcanic eruptions.

He then related an experiment in which an insulated iron ball, and afterwards a bar of gold, was heated, and a small stream of water poured on it, so as to be formed into steam at its surface. The first experiments seemed to show that the metal was charged with negative electricity, but subsequent trials threw doubts upon this conclusion.

Dr. Patterson also described experiments made to determine whether electricity was given off during the solidification of liquids,—the substances used being melted lead, silver and gold. In every case, however, the gold-leaf electroscope failed to exhibit the presence of any electricity.

Prof. Henry stated that he had not seen the sparks from steam; but

that he had obtained feeble electricity from a small ball, partly filled with water, and heated by a lamp. He agreed with Dr. Patterson in the opinion, that the source of the electricity was the change of state, but from water to vapour. There was, however, some doubt on the subject; Pouillet had denied the evolution of electricity from the evaporation of pure water. The facts were interesting, particularly on account of the great intensity of the electricity. The results, obtained by the philosophers, which had been mentioned, indicated electricity of very feeble tension, which could only be observed by the most delicate instruments, but here the sparks were an inch in length. If the vaporization of the water were shown to be the source of the electricity, Prof. Henry thought that the phenomena might be readily explained by the beautiful theory of Becquerel, in regard to the production of the great intensity of the electricity in the thunder cloud. According to this theory, each particle of the vapour carries up with it into the atmosphere the free electricity, which it receives at the moment of the change of state: this, being diffused through the whole capacity of the air, is of very feeble intensity, although of great quantity; but the condensation of the vapour into a cloud affords a continuous conductor, and consequently the electricity of all the particles of the interior, according to the well known principles of distribution, rushes to the surface of the cloud, and hence the great intensity of the lightning. According to this hypothesis, the insulated conductor, placed in the steam, would act not only as a collector, but also as a condenser of the free, but feeble, electricity of the vapour.

Prof. Henry farther stated, in connection with this subject, that he had been informed by several persons, that they had obtained sparks of electricity from a coal stove during the combustion of anthracite. A case had been stated to him several years ago, which he mentioned to his friend Professor Bache, who informed him that a similar one had fallen under his own notice, in which, however, Prof. Bache had succeeded in tracing the electricity to the silk shirt of the person who drew the spark. Another case had lately been reported to him by an intelligent gentleman, of a stove burning bituminous coal, on board of a steam-boat on the Ohio, which afforded amusement to all the passengers during the voyage, by giving sparks of electricity whenever it was touched.

In connection with the facts that had been stated of the production of electricity from steam, Prof. Henry observed that he was now inclined to believe that electricity may also be evolved during the combus-

tion of coal in a stove. But what, he asked, is the source of electricity in this case? Is it combustion, the evaporation of the moisture, or the friction of the hot air on the interior of the pipe?

Dr. Goddard stated, that in the case of a stove, pretty well insulated, his family had amused themselves with drawing sparks half an inch or three quarters of an inch long; and that similar sparks were obtained from the frame of a looking-glass over an open grate, in the house of Dr. Norris, of this city.

Professor Bache remarked, that in the case referred to by Prof. Henry, in which sparks of electricity were obtained from a stove, he had satisfied himself that these were owing to the experimenter wearing a silken shirt:—an experimenter, not similarly clad, being unsuccessful.

Dr. Hare ascribed the incredulity and the opinions which he had expressed, when this subject was brought before the Society by Mr. Peale, at the last meeting, to a misapprehension, on his part, as to the circumstances. He considered that the fact of electricity being developed in the case adduced was established. He alluded to the almost incredible case of a lady, who, agreeably to evidence mentioned in Silliman's Journal, gave off sparks of electricity. He stated also the result of an experiment to discover whether electricity was given off during the rapid evaporation of a saline solution. There was no evidence of excitement. The vessel was of glass.

Mr. Lea had frequently observed sparks from a common grate.

In reference to the results of experiments by Dr. Patterson, in which no evidence of the development of electricity was observed in metals, whilst undergoing a change from the liquid to the solid state, Dr. Goddard observed, that in cases of crystallization on the large scale, as of nitre, in the extensive chemical works of Mr. Wetherill, a beautiful flash of electrical light was apparent.

Professor Rogers suggested, that in ordinary combustion there may be a constant development of electricity, and that means may possibly be found to render it apparent by perfect insulation.

Professor Henry stated, that Pouillet had found that electricity is developed by the combustion of charcoal, and he offered some suggestions as to the mode of rendering the electricity, given off from a stove, apparent, by insulating it both above and below.

Dr. Emerson thought, that the change of state from solid to liquid, and from liquid to solid, might account for various electrical phenomena presented by the animal body. Dr. Hare suggested the diffi-

culty, that the human body is a good conductor; and that without a peculiar organization, analogous to that with which nature has endowed the Torpedo or Gymnotus, it is inconceivable that electrical discharges could arise from vital organization. He believed it was admitted by electricians, that there could be no electrical excitement without the existence of the opposite electricities. Agreeably to the published facts of the case to which he had alluded, the lady was permanently in one state of excitement, generating electricity, as animal heat is generated, and throwing off the excess in sparks.

In the case of the Gymnotus the intensity, Dr. Hare remarked, is so low that sparks are with difficulty rendered apparent at a kerf made by a knife in tinfoil; of course, the sparks alleged to be given by the lady were vastly more intense. From the Gymnotus, sparks could only be received by forming a circuit with a portion of the organic series situate parallel to the spine. Contact in a transverse direction was not productive of any discharge.

Mr. Vaughan stated that there had been no application for the Magellanic premium.

Dr. Patterson, from the Observatory Committee, moved that Mr. Justice be added to that committee. The motion was agreed to.

Mr. Vaughan announced the death of M. J. P. F. Deleuze, of Paris, a member of the Society.

FINIS.